

I CLAIM:

1. A process of increasing the carbon chain length of an olefinic compound comprising the steps of:
  - a) providing a starting olefinic compound and subjecting it to hydroformylation to produce an aldehyde and/or alcohol with an increased carbon chain length compared to the starting olefinic compound;
  - b) optionally , hydrogenating the aldehyde that forms during the hydroformylation reaction to convert it to an alcohol which has an increased carbon chain length compared to the starting olefinic compound; and
  - c) subjecting the alcohol with the increased carbon chain length to dehydration to produce an olefinic compound with an increased carbonchain length compared to the starting olefinic compound.
2. The process of claim 1 wherein the carbon chain length of an olefinic compound with an odd number of carbon atoms is increased by one carbon to an  $\alpha$ -olefinic compound with an even number of carbon atoms.
3. The process of claim 2 wherein 1-pentene is converted to 1-hexene.
4. The process of claim 2 wherein 1-heptene is converted to 1-octene.
5. The process of claim 1 wherein the starting olefinic compound comprises an unbranched linear  $\alpha$ -olefin with a single carbon-carbon double bond.
6. The process of claim 1 wherein a Fischer-Tropsch derived feed stream containing one or more olefins is used as the starting olefinic compound.

7. The process of claim 1 wherein the hydroformylation is carried out by reacting the olefinic compound with carbon monoxide and hydrogen in the presence of a suitable catalyst.
8. The process of claim 1 wherein significant amounts of aldehyde are produced during hydroformylation and the process includes the step of hydrogenating the aldehyde to convert it to an alcohol which has an increased carbon chain length compared to the starting olefinic compound.
9. The process of claim 1 which includes the removal of unwanted products before or after the dehydration step.
10. The process of claim 9 where unwanted alcohols or aldehydes are removed prior to the dehydration step.
11. An olefinic compound produced by the process of claim 1.